Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

THIS IS AN ELECTRONIC FACSIMILE OF A SIGNED DOCUMENT ON FILE AT MASSDEP (NERO)

December 22, 2016

Mr. Charles Benevento
Benevento Asphalt Corporation
900 Salem Street
Wilmington, MA 01887

Re: **WILMINGTON**
Transmittal Number X267629
Application Number NE-16-008
Class: SM50
FMF Number: 365790
AIR QUALITY PLAN APPROVAL AND CONSOLIDATION

Dear Mr. Benevento:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Air and Waste, has reviewed your Non-major Comprehensive Plan Application ("Application") listed above. This Application concerns the proposed modification and operation of your asphalt plant located at 900 Salem Street, Wilmington, Massachusetts. In addition, the Permittee is proposing to consolidate plan approval number MBR-07-IND-023 for the existing concrete mixing plant along with four existing, unapproved aggregate crushing operations into this Plan Approval. The application bears the seal and signature of Paul J. Hanbury, Massachusetts Registered Professional Engineer Number 38757.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control" regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-O, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. BACKGROUND AND DESCRIPTION OF FACILITY

On August 27, 2013, the Permittee conducted air emission compliance testing of the existing hot mix asphalt batch plant. The emissions test results indicated that this emission unit could not operate in compliance with its permitted emission limit for oxides of nitrogen (NOx) of 0.10 pounds per million British thermal units (lb/mmBtu) and for carbon monoxide (CO) of 0.25 lb/mmBtu.

The Permittee modified its asphalt batch plant by installing a flue gas re-circulating (FGR) system and a "low CO combustion flight package" without obtaining prior MassDEP air quality plan approval. As such, the Permittee entered into an Administrative Consent Order with Penalty (ACOP-NE-16-001) with the MassDEP requiring the submittal of an air quality plan application for the unapproved air pollution control equipment.

On May 26, 2016, the Permittee submitted a plan application that proposes to modify and convert its existing asphalt batching plant, approved under Plan Approval Number MBR-04-IND-034, to a "combination" asphalt plant that will allow the Permittee to operate the asphalt plant in either a continuous drum mix mode or batch mode. In addition, the Permittee is proposing to consolidate plan approval number MBR-07-IND-023 for the existing concrete mixing plant along with four existing, unapproved aggregate crushing operations into this Plan Approval.

Process Description for the Modified Asphalt Batching Plant

The Permittee plans to modify the hot mix asphalt (HMA) batch mix plant to a combination batch/drum mix plant. The combination plant is rated at 400 tons per hour (TPH) in drum mix mode designated "1B", and 256 TPH top mix or 356 TPH base/binder in batch mode designated as "1A". When operating in drum mix mode, up to 50 percent of the product can be recycled asphalt product (RAP). When in batch mode, up to 30 percent of the product can RAP.

When operating in batch mode (1A), stockpiled raw aggregate is moved by loader to the aggregate feed hoppers. There are six (6) aggregate feed bins and one (1) RAP bin. The material is metered from the hoppers to conveyors that bring aggregate to the rotary dryer. The dryer's flights move aggregate through the dryer and heat the material to remove all moisture.

Hot aggregate leaving the dryer is dropped into a bucket conveyor and transferred to hot screens for size sorting the material into hot bins. For the final batch mix, the operator opens hot bins (including a hot bin for RAP entering the mix) over a weigh hopper until the desired mix and weight are obtained. The aggregate is dropped into a pugmill and dry-mixed for up to 10 seconds. Once mixed, heated liquid asphalt (approximately 5-6 percent) is then added to the mix. The aggregate and liquid asphalt is mixed together for approximately 60 seconds. The hot mix is then dropped directly into a truck and hauled to the job site.

In drum mix mode (1B), the plant operates in a continuous mixing type process. In this process, the dryer is used to dry the material and mix the heated, dried aggregates with the liquid asphalt (approximately 5-6 percent). Raw aggregate is introduced to the drum for mixing and heating.

Liquid asphalt is controlled by a variable flow pump electronically linked to virgin aggregate and RAP weigh scales. The liquid asphalt is introduced in the mixing zone midway down the drum in a lower temperature zone, along with any RAP and particulate matter (PM) from the collectors. The final product is then discharged at the end of the drum and is conveyed to one (1) of five (5) storage silos. Trucks select the product they desire and are instructed to the specific silo that carries that product, where product is then loaded into the truck for transport to the job site.

The rotary drum dryer is equipped with an existing Gencor Ultra II Total Air Multifuel Combustion System Model UFII-135 burner, which has a heat input rating of 135 mmBtu/hr, and is capable of combusting either natural gas or Ultra Low Sulfur Diesel (ULSD). The burner is capable of firing natural gas at a rate of 135,000 standard cubic feet per hour and ULSD at a rate of 964 gallons per hour.

Should the existing combustion burner fail to comply with the BACT emissions limits within Table 2 of this approval, the Permittee shall replace the existing burner with a new Gencor Equinox Series burner or equivalent, capable of attaining and maintaining compliance with the BACT emission limits. The installation of the new burner shall be complete and ready for operation prior to the operation of the plant in 2018, however no later than April 1, 2018.

Additionally, the asphalt batching plant will utilize a hot oil system to provide heat for the three (two existing and one proposed, 25,000 gallons per tank) liquid asphalt storage tanks. Two Gencor Industries Turbocoil HY Model HYC-200 hot oil heaters, designated Unit Nos. 2 and 3, each with a heat input of 2.0 mmBtu/hr, are capable of firing both natural gas and ULSD. The hot oil heaters are used to heat the liquid asphalt in the storage tanks and piping.

The Best Available Control Technology (BACT) emission limits for this emission unit are listed in Table 2 of this Plan Approval.

Air Pollution Controls for the Modified Asphalt Plant

The Permittee proposes to use the current air pollution control equipment at the facility to maintain compliance with the BACT emission limits established in this plan approval. The particulates generated by the rotary drum mixer are controlled by a primary collector or knockout box, followed by a Gencor Ultraflo Model CFS-182 fabric filter baghouse. Products of combustion, excess air, and water vapor generated during the drying process are exhausted from the rotary dryer through ductwork to the baghouse. The pressure drop through the baghouse will range between two (2) and eight (8) inches water gauge. The baghouse has eight compartments, each containing 132 Nomex polymide filter bags for a total of 1,056 bags. The filters provide an air to cloth ratio of 4.26 to 1, which is based on an inlet gas flow to the baghouse of 77,306 actual cubic feet per minute (acfm) and a total cloth area of 18,134 square feet. The overall particulate collection efficiency is 99.99 weight percent. The maximum particulate emissions rate from the control device is 0.01 grains per dry standard cubic foot (gr/dscf).

The rotary drum dryer's burner is equipped with a flue gas recirculating (FGR) system, which reduces the NOx emissions. The FGR control technology reduces the thermal NOx formation by introducing exhaust gases into the combustion zone of the burner flame. The introduction of the exhaust gases into the combustion zone area, effectively, reduces the thermal NOx. In addition, a modification of the rotary drum mixer provides a reduction of carbon monoxide by preventing impingement of the burner's flame.

No later than April 1, 2018, the Permittee shall install and operate a new Gencor "Top of Silo Emissions Capture System" to control exhaust gases displaced from the storage silos during silo filling. When a volume of product is dropped into a silo, an equal volume of gases contained inside the silo are displaced and are controlled by the Top of Silo Emission Capture System. The displaced gases are induced down the slat conveyor casing by a variable speed fan mounted upon the lower end of the conveyor. A slight negative pressure between the sealed silo system and the ambient atmosphere is maintained by either a manual or automatic modulation of the centrifugal fan's speed. The gases induced from the slat conveyor are directed to a port on the drum burner's breaching, thence to the combustion zone where the organic portion of the fumes is oxidized. The centrifugal fan is interlocked to only allow operation when the asphalt cement metering pump control is in the run position, limiting silo filling operations to periods when the plant is in operation.

No later than April 1, 2017, the Permittee shall install a Bottom of Silo Emissions Containment System to control fugitive emissions during the loading of asphalt product into trucks. Paneling materials shall be installed around the truck loading and silo load out area to prevent windflow through the silo load out area, preventing or minimizing fugitive emissions.

Process Description and Air Pollution Controls for the Existing Concrete Mixing Plant

The Treyco Manufacturing, Inc. "Ready Mix Concrete" (RMC) concrete mix batch plant, designated Unit 4, has a maximum production rate of 200 cubic yards per hour of concrete mix, which consists of combining cement, water, coarse aggregate, and sand. The plant combines these main ingredients in various ratios and grades along with additives to achieve the desired mix. Additives are added to achieve certain desired properties such as strength, setting rate and permeability of the concrete. All ingredients are gravity fed from the weigh hopper to the mixer trucks and mixed on the way to the job site, which is known as transit mix. The major equipment associated with this concrete batching operation are the following components: 1) A six (6) compartment aggregate storage bin with a 300 ton capacity, 2) an aggregate weigh batcher rated at 12 cubic yard, 3) cement weigh batcher rated at 12 cubic yard, 4) a 450 gallon water tank and water scale, 5) a concrete truck loading area. 6) Pearson System hot water heater Model P-20-25W, designated Unit No. 5, with a maximum input energy rating of 3.65 mmBtu per hour, and 7) Kemco hot water heater Model RM, designated Unit No. 6, with a maximum input energy rating of 4.5 mmBtu per hour,

The monthly operating restriction for the concrete plant is 50,000 cubic yards in any calendar month and 250,000 cubic yards of concrete in any consecutive 12-month period.

Air pollution controls is provided by a Donaldson Torit dust collection system, which collects fugitive dust during the loading of the RMC Mixer Trucks and cement silo venting. The Donaldson Model 81MBT10 Modular Dust Collector is capable of handling a volumetric exhaust flow rate of 8000 standard cubic feet per minute (scfm). The dust collector is designed with continuous on-line cleaning and will operate at an air to cloth ratio of 6.159 to 1 and has 81 bags, which each are 10-foot tall in length with a total surface area of 1299 square feet of media. The bags are pulse jet cleaned on-line. The particulate collection efficiency of this dust collection system is at least equal to 99.97 percent by weight.

Process Description and Air Pollution Controls for Existing Crushing Activities

The existing crushing operations occur at four different crushing plants: 1) The main crushing plant, designated Unit No. 7, is where a series of jaw and cone crushers, screening, transfer and washing operations occur to produce various aggregate sizes including 3/8 inch, 1/2 inch and 3/4 inch and sand. 2) The portable crushing plant handles the overflow of crushed aggregate from the main crushing plant to produce additional aggregate of the desired sizes. The portable crusher is designated Unit No. 8. 3) The concrete crushing operation, which is designated Unit 9, processes broken concrete that is recycled and crushed to produce 1-1/2 inch sized concrete pieces 4) The Recycled Asphalt Pavement (RAP), designated Unit No. 10, processes and crushes broken asphalt pieces into 1-1/2 inch sized RAP pieces for reuse.

The main crushing plant and portable crushing plant have areas that generate fugitive dust including areas around the crusher, belt transfer box, aggregate screening and stockpiling operations. The facility operates a wet suppression system called the “DustPro” spray system. The DustPro spray system controls fugitive dust by producing an atomized water spray that suppresses airborne particulates and by adding moisture to the aggregate stream to prevent visible dust emissions downstream. The spray system is electronically controlled by means of a remote panel at the Main Crushing Plant that enables the plant operator to switch spray lines on or off in response to various dust levels.

The concrete crusher and RAP crusher are also equipped with wet dust suppression. Spray nozzles are located at the crusher outlets and other important dust generating areas on these crusher plants.

Applicable Regulatory Requirements for the Hot Mix Asphalt Facility

This project is required to have Best Available Control Technology (“BACT”) under 310 CMR 7.02. MassDEP has determined that the emission limitations listed in Table 2 below represents BACT for this project.

The Permittee has indicated that the Project is subject to the federal 40 CFR 60 Subpart I for hot mix asphalt facilities and Subpart OOO for nonmetallic mineral processing plants. MassDEP has accepted delegation of Subpart I. On the other hand, MassDEP has not accepted delegation for Subpart OOO for sources which are not subject to 310 CMR Appendix C, the Permittee is advised to consult with EPA Region 1 at 5 Post Office Square, Suite 100, Boston, MA 02109-3912,

telephone: (617) 918-1111. Other applicable requirements may include notification, record keeping, and reporting requirements.

2. EMISSION UNIT IDENTIFICATION

The following emission units in Table 1 are subject to and regulated by this Plan Approval:

Table 1

EU	DESCRIPTION OF EMISSION UNIT	EU DESIGN CAPACITY	POLLUTION CONTROL DEVICE
1A	Existing Asphalt Batch Plant:[1] McCarther/Gencor plant Primary Fuel - NG Secondary Fuel - ULSD	352 TPH asphalt base/binder mix 256 TPH of asphalt top mix	PCD-1: Gencor Ultra II Burner w/FGR and low CO flight package – Max. Burner Heat Input: 135.0 mmBtu/hr or Gencor Equinox Series Burner – Max. Burner Heat Input: 150.0 mmBtu/hr, or equivalent PCD-2: Primary Collector : Gencor Knockout Chamber PCD-3: Secondary Collector : Gencor Fabric Filter Baghouse • Exhaust Fan Maximum: 77,306 acfm • Single chamber baghouse with 1,056 Nomex filter bags • Air to Cloth Ratio: 4.26 to 1 • PM Collection Efficiency ≥ 99.97 %
1B	Proposed Asphalt Drum Mix Plant:[1] Gencor Model Primary Fuel - NG,\ Secondary Fuel – ULSD	400 TPH of asphalt product	PCD-1: Gencor Ultra II Burner w/FGR and low CO flight package – Max. Burner Heat Input: 135.0 mmBtu/hr or Gencor Equinox Series Burner – Max. Burner Heat Input: 150.0 mmBtu/hr, or equivalent PCD-2: Primary Collector: Gencor Knockout Chamber. PCD-3: Secondary Collector : Gencor Fabric Filter Baghouse. • Exhaust Fan Maximum: 77,306 acfm • Single chamber baghouse with 1,056 Nomex filter bags • Air to Cloth Ratio: 4.26 to 1 • PM Collection Efficiency ≥ 99.97 %

Table 1

EU	DESCRIPTION OF EMISSION UNIT	EU DESIGN CAPACITY	POLLUTION CONTROL DEVICE
2	Existing Hot Oil Heater Gencor Model HYC-200 Primary Fuel - NG Secondary - ULSD	Max. Burner Heat Input: 2.0 mmBtu/hr Max. Firing Rate on NG: 2,000 scfh Max. Firing Rate on ULSD: 14.2 gph	NA
3	Proposed Hot Oil Heater Gencor Model HYC-200 Fuel – NG	Max. Burner Heat Input: 2.0 mmBtu/hr Max. Firing Rate on NG: 2,000 scfh	NA
7	Main Aggregate Crusher	550 TPH	Wet dust suppression
8	Portable Crusher	250 TPH	
9	Concrete Crusher	400 TPH	
10	Recycled Asphalt Product Crusher	300 TPH	
11	Five Existing Asphalt Product Storage Silos	200 ton capacity for each silo	PCD-4: Top of the Silo Emissions Capture System PCD-5: Bottom of the Silo Emissions Containment System
12	Three Proposed Asphalt Product Storage Silos		
13	Two Existing Liquid Asphalt Storage Tanks One Proposed Liquid Asphalt Storage Tanks	25,000 gallons/tank (existing) 30,000 gallons/tank (proposed)	PCD-7: Vent condensers on liquid asphalt storage tanks
14	Fugitive Particulate Emissions from Paved Roadways	All fugitive dust from roadways within the facility shall be controlled by a water truck and street sweeper.	Particulate Dust Control Plan
4	Existing Concrete Batch Plant	200 yd^3/hr	PCD-6: Donaldson Torit baghouse
5	Existing Pearson Systems Hot Water Heater	3.65 mmBtu/hour	NA
6	New Kemco Instant Hot Water Heater	4.5 mmBtu/hour	NA

Table 1 Key

EU = emission unit
PCD = pollution control device
TPH = tons per hour
NOx = oxides of nitrogen
CO = carbon monoxide
FGR = flue gas recirculation
NG = natural gas
ULSD= ultra low sulfur diesel fuel oil

mmBtu/hr = million British Thermal Units per hour
acfm = actual cubic feet per minute
scfh = standard cubic feet per hour
gph = gallons per hour
PM = particulate matter
NA = not applicable
yd^3/hr = cubic yards per hour

Table 1 Notes

1. Both Emission Unit 1A (the existing asphalt batch plant) and Emission Unit 1B (the proposed asphalt continuous drum plant) utilize or will utilize five existing 200 ton asphalt product storage silos, three proposed 200 ton asphalt product storage silos, two existing 25,000 gallon horizontal liquid asphalt storage tanks1 and one proposed 30,000 gallon vertical liquid asphalt storage tank. These ancillary equipment units are designated as Emission Units 11, 12 and 13.

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2 below:

Table 2

EU	Operational/ Production Limit	Air Contaminant	Emission Limits/Standards
1A, 1B	1. Natural gas shall be the primary fuel of use. 2. Limit use to: ≤ 238.0 million scf of natural gas per rolling 12-month period ≤ 47.6 million scf of natural gas per month.	PM	0.01 gr/dscf
		PM_{10}	0.01 gr/dscf
		$PM_{2.5}$	0.007 gr/dscf
		NO_x	0.044 lb/mmBtu
		CO	0.30 lb/mmBtu
		SO_2	0.0006 lb/mmBtu
	1. No. 2 fuel oil shall be the secondary fuel of use. 2. Limit use to: ≤ 500,000 gallons of ULSD per rolling 12-month ≤83,333 gallons per month	PM	0.01 gr/dscf
		PM_{10}	0.01 gr/dscf
		$PM_{2.5}$	0.007 gr/dscf
		NO_x	0.113 lb/mmBtu
		CO	0.39 lb/mmBtu
		SO_2	0.0017 lb/mmBtu

Table 2			
EU	**Operational/ Production Limit**	**Air Contaminant**	**Emission Limits/Standards**
1A,1B	Asphalt Production Limit: 850,000 tons of product per rolling 12-month period 170,000 tons of product per month	VOC	0.032 lbs/ton product
		HAPs	0.01 lbs/ton product
		Opacity	$\leq$ 5.0 % except for a period or an aggregate period of 2 minutes within any one hour period when visible emissions may have opacity > 5.0 % but $\leq$ 20 %. At no time shall visible emissions > 20%.
		PM Opacity	$\leq$ 0.04 gr/dscf < 20 % (40 CFR 60, Subpart I for Hot Mix Asphalt Facilities)
2, 3	Maximum Natural Gas firing: 5.0 million scf per rolling 12-month period	PM	0.0076 lb/mmBtu
		PM_{10}	0.0076 lb/mmBtu
		$PM_{2.5}$	0.0076 lb/mmBtu
		NO_x	0.10 lb/mmBtu
		CO	0.084 lb/mmBtu
		SO_2	0.0006 lb/mmBtu
		VOC	0.0055 lb/mmBtu
		HAPs	0.0018 lb/mmBtu
	Maximum ULSD firing: 35,715 gallons per rolling 12-month period	PM	0.143 lb/mmBtu
		PM_{10}	0.0071 lb/mmBtu
		$PM_{2.5}$	0.0018 lb/mmBtu
		NO_x	0.1429 lb/mmBtu
		CO	0.0357 lb/mmBtu
		SO_2	0.0017 lb/mmBtu
		VOC	0.0243 lb/mmBtu
		HAPs	0.00008 lb/mmBtu
4	Maximum production limit: 250,000 cubic yards of concrete product per rolling 12-month period	PM	0.0391 lb/yd^3
		PM_{10}	0.0293 lb/yd^3
		$PM_{2.5}$	0.0293 lb/yd^3
		HAPs	0.0000451 lb/ton

Table 2			
EU	**Operational/ Production Limit**	**Air Contaminant**	**Emission Limits/Standards**
5,6	Maximum Natural Gas firing: 13.29 million scf per rolling 12-month period (EU5) 16.38 million scf per rolling 12-month period (EU6)	PM	0.0076 lb/mmBtu
		PM_{10}	0.0076 lb/mmBtu
		$PM_{2.5}$	0.0076 lb/mmBtu
		NO_x	0.10 lb/mmBtu
		CO	0.084 lb/mmBtu
		SO_2	0.0006 lb/mmBtu
		VOC	0.0055 lb/mmBtu
		HAPs	0.0019 lb/mmBtu
7	Maximum Production Limit: 1,500,000 tons of processed material per 12-month rolling period 300,000 tons of processed material per month	PM	0.0101 lb/ton
		PM_{10}	0.00379 lb/ton
		$PM_{2.5}$	0.000595 lb/ton
8	Maximum Production Limit: 500,000 tons of processed material per 12-month rolling period 100,000 tons of processed material per month	PM	0.00756 lb/ton
		PM_{10}	0.00266 lb/ton
		$PM_{2.5}$	0.000382 lb/ton
9	Maximum Production Limit: 600,000 tons of processed material per 12-month rolling period 120,00 tons of processed material per month	PM	0.00558 lb/ton
		PM_{10}	0.00214 lb/ton
		$PM_{2.5}$	0.000341 lb/ton
10	Maximum Production Limit: 600,000 tons of processed material per 12-month rolling period 120,000 tons of processed material per month	PM	0.00572 lb/ton
		PM_{10}	0.00219 lb/ton
		$PM_{2.5}$	0.000354 lb/ton
Facility-wide	NA	PM	21.70 TPY 4.34 TPM
		PM_{10}	11.90 TPY 2.38 TPM
		$PM_{2.5}$	3.81 TPY 0.72 TPM
		NO_x	7.43 TPY 1.49 TPM
		CO	36.99 TPY 7.40 TPM
		SO_2	0.09 TPY 0.02 TPY

Table 2			
EU	**Operational/ Production Limit**	**Air Contaminant**	**Emission Limits/Standards**
Facility-wide		VOC	13.8 TPY 2.76 TPM
		HAPs	3.81 TPY 0.76 TPM

Table 2 Key
EU = emission unit
CO = Carbon Monoxide
NO_x = Nitrogen Oxides
PM = Total Particulate Matter
SO_2 = Sulfur Dioxide
PM_{10} = Particulate Matter less than or equal to 10 microns in diameter
VOC = volatile organic compounds
$PM_{2.5}$ = Particulate Matter less than or equal to 2.5 microns in diameter
CO_2 = carbon dioxide
HAP = hazardous air polluants
scf =standard cubic feet
gr/dscf = grains per dry standard cubic foot
lb/mmBtu = pounds per million British thermal units
lb/ton = pounds per ton
lb/yd^3 = pounds per cubic yard
TPY = tons per consecutive 12-month period
TPM = tons per month
NA = not applicable

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, recordkeeping, and reporting requirements as contained in Tables 3, 4 and 5 below:

Table 3	
EU	**Monitoring and Testing Requirements**
1A,1B	1) On or before July 1, 2017, the Permittee shall conduct emissions compliance testing on Unit No. 1 to demonstrate compliance with the NO_x, CO and $PM/PM_{10}/PM_{2.5}$ emission and opacity limits that are contained in Table 2. Testing shall be conducted in accordance with requirements and procedures set forth by appropriate EPA Reference Test Methods as contained in 40 CFR 60, Appendix A along with MassDEP Emission Test Guidelines. The emission compliance test date(s) shall be coordinated with the MassDEP personnel of the Northeast Regional Office for a mutually agreed upon test schedule.
	2) Within 45 days prior to the start of the compliance test, the Permittee shall submit to the MassDEP Northeast Regional Office a test protocol for written Departmental approval. The test protocol shall include, but not be limited to, a description of the emission compliance testing program proposed, sampling point locations, sampling equipment, analytical procedures, proposed test methods and the proposed operating conditions for the required testing.

Table 3	
EU	**Monitoring and Testing Requirements**
1A,1B	3) After completing the emissions compliance testing as stated in Condition No. 1 above, the Permittee shall conduct subsequently emission compliance testing every three years, with the next test program to be conducted on or before May 1, 2020.
	4) Prior to the startup of each operational season, the Permittee shall conduct a "Visolite" leak detection test on the baghouse (PCD-3). Additional "Visolite" tests shall be performed at least every three months to locate any leaks, bag failures or problems with the operation of the baghouse that may cause excessive stack gas opacity.
	5) The Permittee shall monitor the natural gas flow combusted in standard cubic feet on a monthly and rolling 12-month basis.
	6) The Permittee shall monitor the ULSD fuel combusted in gallons on a monthly and rolling 12-month basis.
	7) The Permittee shall monitor the total asphalt product produced in tons on a monthly and rolling 12-month basis.
	8) Operate and maintain a pressure differential monitoring system for fabric filter baghouse (PCD-3), which includes an instantaneous reading of the differential pressure in the plant operator's control station. Monitor audible and visual alarms to signal the need for corrective action in the event the pressure is outside the limits of normal operation established by the manufacturer or through compliance testing. All corrective actions to be undertaken by the Permittee under alarm conditions shall be explicitly stated in the facility's Standard Operating and Maintenance Procedures (SOMP).
4	9) The Permittee shall monitor the concrete batch plant's baghouse opacity emissions on a daily basis to ensure that there is less than 5 percent opacity being emitted as determined by EPA Method 9 – visible emissions. If the opacity emissions are equal to or greater than 5 percent opacity, then the facility personnel shall remove the concrete batch plant from operation as quickly as practicable and repair the baghouse before returning the concrete batch plant to service.
	10) The Permittee shall monitor the differential pressure across baghouse (PCD-6) least once each calendar day that the unit is operating to ensure that the system is operating within manufacturer's recommendations.
7, 8, 9, 10	11) The Permittee shall monitor the operation of the wet dust suppression system including the operation of each water spray. The Permittee shall follow the SOMP for these emission units.
11, 12, 13, 14	12) The Permittee shall monitor the opacity levels by performing EPA Method 9 to determine if the fugitive visible emissions are less than 5 percent opacity.

Table 3	
EU	**Monitoring and Testing Requirements**
Facility-wide	13) The Permittee shall, at a minimum, conduct a daily inspection of all air pollution control equipment and related operations and activities, including but not limited to the knockout chamber (PCD-2), the fabric filter baghouse (PCD-3), the top of the silo emissions capture system (PCD-4), the bottom of the silo emissions containment system (PCD-5), the baghouse (PCD-6), and the vent condensers for the liquid asphalt storage tanks (PCD-7). All such daily inspections shall be conducted in conformance with the Particulate Matter Control Plan.
	14) The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
Facility-wide	15) In accordance with 310 CMR 7.13, the Permittee shall conduct emissions compliance testing if and when the Department deems it necessary. If the Department determines that compliance testing is necessary, the facility shall cause such testing to be conducted by a person knowledgeable in stack testing, to be conducted in accordance with the procedures contained in a test protocol which has been approved by the Department, and to be conducted in the presence of a representative of the Department when such is deemed necessary.

Table 3 Key
EU = emission unit
PCD = pollution control device
CO = Carbon Monoxide
NO_x = Nitrogen Oxides
PM = Total Particulate Matter
SO_2 = Sulfur Dioxide
PM_{10} = Particulate Matter less than or equal to 10 microns in diameter
EPA = Environmental Protection Agency
$PM_{2.5}$ = Particulate Matter less than or equal to 2.5 microns in diameter
CMR = Commonwealth of Massachusetts Regulations
ULSD = ultra-low sulfur fuel oil
SOMP = Standard Operating and Maintenance Procedures

Table 4	
EU	**Recordkeeping Requirements**
1A, 1B	1) The Permittee shall record all maintenance activity in a maintenance log for the subject baghouse particulate control device. Each record shall specify the date of each "Visolite" test number and location of filter elements replaced, the overall condition of the baghouse, the date the unit was inspected and the date that the work was completed.
	2) The Permittee shall continuously record the pressure differential monitoring system for baghouse (PCD-3).
4	3) The Permittee shall record the concrete batch plant's baghouse opacity emissions on a daily basis to ensure that there are less than 5 percent opacity being emitted as determined by EPA Method 9 – visible emissions.
	4) The Permittee shall record the differential pressure across fabric filter baghouse, which is designated PCD-6, at least once each calendar day that the unit is operating to ensure that the system is operating within manufacturer's recommendations.

Table 4	
EU	**Recordkeeping Requirements**
Facility-wide	5) The Permittee shall maintain adequate records on-site to demonstrate compliance status with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). These records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at: http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping
	6) The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the applicable EU(s) and PCD(s) approved herein on-site.
	7) The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s), PCD(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed. At a minimum, this maintenance log shall include a signed report of conditions noted by the observer and any corrective actions taken. In addition, this log shall note the date, time and the equipment and activities observed.
	8) The Permittee shall maintain a record of the daily inspections of all air pollution control equipment and related operations and activities, including the knockout chamber (PCD-2), the fabric filter baghouse (PCD-3), the top of the silo emissions capture system (PCD-4), the bottom of the silo emissions containment system (PCD-5), the baghouse (PCD-6), the vent condensers for the liquid asphalt storage tanks (PCD-7) and the Particulate Matter Control Plan.
	9) The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s), PCD(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	10) The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	11) The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	12) The Permittee shall make records required by this Plan Approval available to MassDEP and EPA personnel upon request.

Table 4 Key
EU = emission unit
PCD = pollution control device
EPA = Environmental Protection Agency

Table 5	
EU	**Reporting Requirements**
1A, 1B	1) Within 45 days after the completion of the required compliance testing, the Permittee shall submit a final emission compliance test results report to the MassDEP Northeast Regional Office. The final compliance test results report shall include, but not be limited to, a description of the emissions compliance testing program conducted, applicable emission limits for which testing is required and a summary of test results demonstrating compliance and/or noncompliance with applicable limits, sampling point locations, sampling equipment, analytical procedures, test methods used, and the process operating conditions during the compliance testing.
	2) In the event of a malfunction of the air pollution control equipment, the plant shall cease operation until the problem has been corrected. This Office shall be notified Attn: BAW Permit Chief by telephone at 978-694-3200, by facsimile at 978-694-3499 or by email at NERO.Air@massmail.state.ma.us within three business day of said occurrence, and subsequently in writing attention Permit Chief, within ten days of said occurrence in the event of such a malfunction. The written confirmation shall describe the malfunction, the possible reason(s) for the malfunction and future actions to be undertaken to prevent the malfunction from recurring.
	3) Within 30 days after the new burner (if necessary) is installed and is operational, the Permittee shall notify the BAW Permit Chief at the MassDEP Northeast Regional Office in writing.
11, 12	4) Within 30 days after the proposed "Top of Silo Emissions Capture System" is installed and is operational, the Permittee shall notify the Permit Chief at the MassDEP Northeast Regional Office in writing.
	5) Within 30 days after the proposed "Bottom of Silo Emissions Containment System" is installed and is operational, the Permittee shall notify the BAW Permit Chief at the MassDEP Northeast Regional Office in writing.
Facility-wide	5) The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	6) The Permittee shall notify the Northeast Region BAW Permit Chief by telephone at 978-694-3200, by email at NERO.Air@massmail.state.ma.us, or by fax at 978-694-3499, as soon as possible, but no later than three (3) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to the BAW Permit Chief at the MassDEP Northeast Regional Office within ten (10) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	7) Within 45 days after emission testing, the Permittee shall submit to MassDEP a final stack emission test results report.

Table 5 Key
EU = emission unit
PCD = pollution control device

4. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to, and shall comply with, the following special terms and conditions:

A. The Permittee shall comply with the Special Terms and Conditions as contained in Table 6 below:

Table 6	
EU	**Special Conditions**
1A, 1B	1) This Approval supersedes the Final Approval No. MBR-07-IND-023 for the concrete batch plant and Final Approval No. MBR-04-IND-034 for the asphalt batch plant.
	2) The Permittee shall notify the BAW Permit Chief at the MassDEP Northeast Regional Office in writing when the proposed modification of the asphalt plant is completed and ready for continuous operation, within fourteen days thereof.
	3) The Permittee shall limit operation of the Unit 1 (whether operating as 1A or 1B) to no more than 850,000 tons of product produced per rolling 12-month period and no more than 170,000 tons per month of product produced.
	4) The Permittee shall limit the use of natural gas to no more than 238 mmscf per rolling 12-month period and no more than 47.6 mmscf per month.
	5) The Permittee shall limit the use of ULSD to no more than 500,000 gallons per rolling 12-month period and no more than 83,333 gallons per month.
	6) The Permittee shall have readily accessible at all times a minimum number of 10 replacement filter bags for the subject baghouse particulate control device.
	7) The Permittee shall provide adequate lighting so as to accommodate routine night maintenance of the subject facility's air pollution control equipment.
	8) The liquid asphalt storage tanks shall be equipped with appropriately designed vapor condensers to control visible emissions.
	9) Within ninety (90) days of the date of completion of installation and commencement of continuous operation of the emission units, the Permittee shall submit to the MassDEP for approval, the updated SOMP for this emission unit.
	10) The Permittee shall utilize non-volatile release agents for the trucks, require that all trucks cover their loads with tarps as quickly as possible after loading and limit on-site truck speeds to no more than 10 miles per hour.
	11) The Permittee shall keep all facility roads paved, swept and/or wetted as applicable, shall keep all storage piles of raw materials watered as required to minimize fugitive particulate
11,12	12) The Permittee shall install and have ready for operation, the "Top of the Silo Emissions Control System (PCD4)" no later than April1, 2018. Ninety (90) days prior to installation, the Permittee shall submit plans, specifications and SOMP for this EU and PCD.

Table 6	
EU	**Special Conditions**
11,12	13) The Permittee shall install and have ready for operation the "Bottom of the Silo Emissions Containment System (PCD5)" no later than April 1, 2017. This containment system shall include appropriate design and placement of panels to prevent windflow through the truck loading and silo load out area, preventing or minimizing fugitive emissions. Ninety (90) days prior to installation, the Permittee shall submit to the MassDEP, the plans and specifications for PCD5.
7, 8, 9, and 10	14) Within one hundred-eighty (180) days of the date of this Plan Approval, the Permittee shall submit to the BAW Permit Chief, MassDEP Northeast Regional Office for approval, the updated SOMP for these emission units.
	15) The Permittee shall comply with 310 CMR 7.09 (1) at all times. This Regulation states that no person having control of any dust or odor generating operations shall permit emissions therefrom which cause or contribute to a condition of air pollution. This Air Pollution Control Regulation is also enforceable by any police department, fire department, board of health officials, or building inspector or their designee acting within their jurisdictional area pursuant to 310 CMR 7.52.
Facility-wide	16) The Permittee shall comply with 310 CMR 7.01 (1) at all times. Regulation 310 CMR 7.01 (1) states that no person owning leasing or controlling the operation of any air contaminant source shall willfully, negligently, or through failure to provide necessary equipment or to take necessary precautions, permit any air emissions from said air contamination source of such quantities of air contaminants which will cause, by themselves or in conjunction with other air contaminants, a condition of air pollution.

Table 6 Key
EU = emission unit
PCD = pollution control device
CO = Carbon Monoxide
NO_x = Nitrogen Oxides
PM = Total Particulate Matter
SO_2 = Sulfur Dioxide
PM_{10} = Particulate Matter less than or equal to 10 microns in diameter
VOC = volatile organic compounds
CO_2 = carbon dioxide
$PM_{2.5}$ = Particulate Matter less than or equal to 2.5 microns in diameter
HAP = hazardous air pollutants
EPA = Environmental Protection Agency
CMR = Commonwealth of Massachusetts Regulations
mmscf = million standard cubic feet

B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including, but not limited to, rain protection devices known as "shanty caps" and "egg beaters."

C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7

Emission Unit No.	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (diameter in feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (^{o}F)
1A,1B	35.2	4.46	41 to 82	250 to 350
2,3	13	0.625 x 0.96 (rectangular)	3 to 27	700-800
5	17	0.833	50 to 200	70 to 100
6	50	2	50 to 200	70 to 100

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).

B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.

C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.

D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.

F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.

G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.

H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.

I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. APPEAL PROCESS

This Plan Approval is an action of the Department. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date you received this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Should you have any questions concerning this Plan Approval, please contact Joseph Su by telephone at 978-694-3200, or in writing at the letterhead address.

Very truly yours,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

_____

Susan Ruch
Deputy Regional Director and Acting Permit Chief
Bureau of Air and Waste

_____

Edward Braczyk
Managing Environmental Engineer
Northeast Region BAW Permit Section

_____

Joseph Su
Environmental Engineer

cc: Charles Benevento, P.O. Box 454, Wilmington, MA 01887

ecc: Benevento Companies – William Schneider
Engineering Technologies Group Inc. (ETG) – Christine Gibbons
Wilmington Board of Health
Fire Headquarters, Wilmington, MA
DEP/BOSTON – Y. Tian
DEP/NERO – M. Bolis, J. Su, E. Braczyk